

# Evidence-based Management of

# EPILEPSY

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# Foreword

In assessing, treating and advising their patients, physicians make numerous decisions based on various types of information and evidence. Some of this information comes directly from an individual patient in the form of the medical history, physical findings and laboratory studies. Ideally, much of the evidence to support diagnostic and treatment strategies is attained from high-quality published clinical studies that are particularly relevant to the physician's pending decisions. Unfortunately, such evidence is not often available, leaving physicians to rely entirely on consensus statements, uncontrolled case reports or case series, or anecdotal experience.

The purpose of this book is to provide physicians caring for patients with epilepsy with the available evidence to support the diagnostic and treatment decisions that are frequently made in clinical practice together with an assessment of the strength of the supporting published evidence, using levels and grades as explained further on page ix. Chapter 1 focuses on the decisions to start, select, monitor and stop antiepileptic drugs (AEDs), Chapter 2 further elaborates on monitoring seizure frequency and severity, and Chapter 6 addresses an aspect of seizures that is often overlooked – the postictal state. Chapters 3 and 7 address a range of non-pharmacological treatments that become options when AEDs do not achieve the treatment objective of freedom from seizures and significant side effects, and Chapter 8 proposes the basis for evaluating a new class of devices – seizure prediction and detection systems – which are currently under development. Chapters 4, 5 and 12 discuss diagnostic and treatment issues specific to women of child-bearing potential, patients with concomitant depressive and anxiety disorders, and those with intellectual disabilities, respectively. The diagnosis and treatment of psychogenic non-epileptic seizures, a problem that vexes patients and physicians alike, is covered in Chapter 13.

Patients with epilepsy often ask their physicians about topics such as whether they could die from a seizure and how this could be prevented, what behavioral treatments may be of benefit to them, and if herbal remedies could help. The available evidence for these topics is presented in Chapters 7, 9, 10 and 11.

One of the informative and sobering outcomes of assessing the evidence-based management of epilepsy is the recognition that evidence simply does not currently exist to inform and support many of the potentially life-altering decisions that clinicians must make on a daily basis. Hence the authors suggest many areas where further clinical research is urgently needed.

To use the published evidence most effectively in their daily work, physicians should evaluate its strengths and weaknesses, as well as its relevance to a specific patient. Even the best evidence is not “one size fits all” but rather should be applied in the context of the clinical insights that emerge from the doctor-patient relationship, which still remains the most vitally important, irreplaceable cornerstone of the practice of medicine.

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# Using evidence-based medicine

The process of gathering evidence is a time-consuming task. One of the main reasons for supporting the use of evidence-based medicine is the rate of change of new practices, and the increasing tendency for specialization. Medical information is widely available from a variety of sources for clinicians but keeping up-to-date with current literature remains an almost impossible task for many with a busy clinical workload. *Evidence-based Management of Epilepsy* has been written to aid this process. The chapters in this book have been written by internationally renowned experts who have applied the principles of evidence-based medicine and taken relevant clinical questions and examined the current evidence for the answers. The authors were asked to quote levels and grades of evidence for each major point, and to provide a summary of key points and their respective evidence levels at the end of each chapter. The levels of evidence and grades of evidence used in this book are shown in Tables 1 and 2 and are widely used in evidence-based medicine.

**Table 1. Levels of evidence.**

Level	Type of evidence
Ia	Evidence obtained from systematic review or meta-analysis of randomized controlled trials
Ib	Evidence obtained from at least one randomized controlled trial
IIa	Evidence obtained from at least one well-designed controlled study without randomization
IIb	Evidence obtained from at least one other type of well-designed quasi-experimental study
III	Evidence obtained from well-designed non-experimental descriptive studies, such as comparative studies, correlation studies and case studies
IV	Evidence obtained from expert committee reports or opinions and/or clinical experience of respected authorities

**Table 2. Grades of evidence.**

Grade of evidence	Evidence
A	At least one randomized controlled trial as part of a body of literature of overall good quality and consistency addressing the specific recommendation (evidence levels Ia and Ib)
B	Well-conducted clinical studies but no randomized clinical trials on the topic of recommendation (evidence levels IIa, IIb, III)
C	Expert committee reports or opinions and/or clinical experience of respected authorities. This grading indicates that directly applicable clinical studies of good quality are absent (evidence level IV)

